

ABSTRACT

Laser ablation to direct write dot matrix holographic patterns onto the surface of polymeric coatings deposited on an embossing cylinder is described. The desired holographic pattern is ablated by interfering at least two laser beams directly onto the polymeric coating of the embossing cylinder in the pixel-by-pixel manner. The direct write laser ablation technique eliminates the size limitations of the holographic pattern created on the surface of the embossing cylinder, the need to combine smaller images to create a larger shim and the very need to use the shims, since large seamless embossing cylinders can be directly pixel-by-pixel ablated with larger sized images of great variety. The polymeric coatings for further direct write laser ablation can be deposited onto the embossing cylinder by various methods, including, but not limited to, molding or coating.